

SDAŃSK UNIVERSITY 的 OF TECHNOLOGY

Subject card

Subject name and code	Technical Mechanics 1, PG_00042000								
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering								
Date of commencement of studies	October 2020		Academic year of realisation of subject			2020/2021			
Education level	first-cycle studies		Subject group			Obligatory subject group in the field of study			
Mode of study	Full-time studies		Mode of delivery			at the university			
Year of study	1		Language of instruction			Polish			
Semester of study	2		ECTS credits			3.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Theory and Ship Design -> Faculty of Mechanical Engineering and Ship Technology					ology			
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Czesław Szymczak							
	Teachers		dr inż. Arkadiusz Sitarski						
			dr hab. inż. Bogdan Rozmarynowski						
			dr hab, inż. Marcin Abramski						
		prot. or nab. Inz. Czesław Szymczak							
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
	Number of study hours	30.0	15.0	0.0	0.0		0.0	45	
	E-learning hours included: 0.0								
	Adresy na platformie eNauczanie: Technichnical Mechanics 1 Tutorials Gr 1-2-5 (PG_00042000) - Moodle ID: 12486 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=12486								
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study		SUM	
	Number of study hours	45		5.0		25.0		75	
Subject objectives	Teaching of the theoretical mechanics basis within statics, kinematics and dynamics of material point, system of material points and rigid body is an objective of the technical mechanics.								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	K6_K01		Student knows equilibrium equations of forces and can determine movement of structure elements subjected to loads.			[SK2] Assessment of progress of work			
	K6_W04		Student can carry out static analysis of simple structures and estimate dynamic effects on it.			[SW1] Assessment of factual knowledge			
Subject contents	 Introduction, 2) Calculus of vectors, 3) Equilibrium of forces, 4) Reactions and internal forces in structures, Kinematics of particle, system of particles and rigid body, 6) Principles and basic theorems of dynamics, Equations of motion of particles and system of particles, 8) Equations of rigid body motion, 9) Collisions of particles, 10) Lagrange equations, 11) Vibration of particles, 12) Gyroscopic effects 								
Prerequisites and co-requisites	none								
Assessment methods and criteria	Subject passing criteria		Passing threshold			Percentage of the final grade			
	Written colloquiums		20.0%			60.0%			
	Written exam		10.0%			40.0%			

Recommended reading	Basic literature	 Spiegel M. R., Theoretical Mechanics,Mc Graw -Hill, 1967, Beer F.P., Johnston E.R., Vector Mechanics for Engineers, Statics, Dynamics, McGraw-Hill, 1983 Sandor B.I., engineering Mechanics, Statics, Dynamics, Prentice- Hall, 1987. 				
	Supplementary literature	Goldstein H., Classical Mechanics, Addison-Wesley, 2001				
	eResources addresses	Technichnical Mechanics 1 Tutorials Gr 1-2-5 (PG_00042000) - Moodle ID: 12486 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=12486				
Example issues/ example questions/ tasks being completed	- Reactions and internal forces in plane frame					
	- Plane motion					
	- Relative motion of particle					
	- Corriolis acceleretion and forces					
Work placement	Not applicable					